The research paper

Communicating research findings to the broader community

Writing a research paper: Purpose

I.   To add to scientific knowledge

    A.   as it relates to prior knowledge

    B.   as it provides new knowledge

II. To convey information clearly and concisely

    A.   clarity of presentation

    B.   conciseness of presentation

Types of articles and representative journals

I. Theory development

    A. Psychological Review

    B. Psychological Inquiry

II. Reviews of prior findings

    A. Psychological Bulletin

    B. American Psychologist

    C. Current Directions in Psychological Science

III. "Archival" data

    A. peer reviewed studies that are worth publishing

    B. because of new findings or methods

Types of Journals

I. Broad band

    A. Interest to all fields:

        1. Science

        2. Nature

    B. Interest to all Psychologists

        1. Journal of Experimental Psychology: General

        2. Psychological Science

II. Interest to a narrow field

    A. Journal of Personality and Social Psychology

    B. Journal of Abnormal Psychology

    C. Cognitive Psychology

    D. Developmental Psychology

Types of Journals (continued)

I. Methodology

    A. Psychological Methods

    B. Psychometrika

    C. Psychological Assessment

    D. Applied Psychological Measurement

    E. Multivariate Behavioral Research

Conventional Styles

I. Science/Psychological Science/Nature

    A. emphasis upon problem and conclusions

    B. methods and detailed results last

II. APA journals

    A. APA manual of style

    B. Intro - Method - Results - Conclusions

III. Chapters
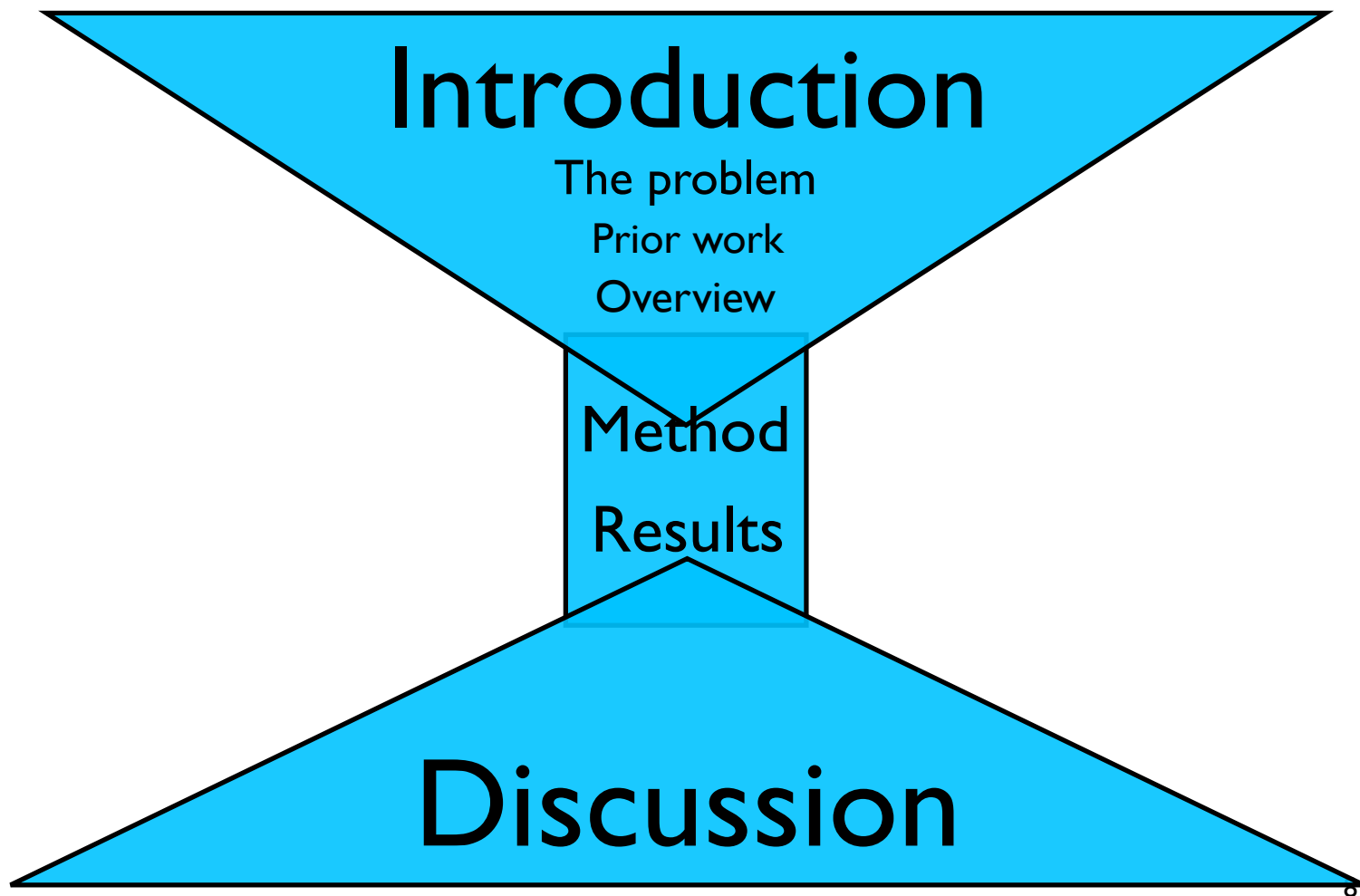
    A. Stand alone content - integrative structure

IV. Books

    A. Edited chapters

    B. Monograph

Sections of an APA article

1. Title page
2. Abstract
3. Introduction
4. Method
5. Results
6. Discussion and Conclusion
7. References
8. Tables
9. Figure Captions
10. Figures

Structure of a paper
an hourglass

Introduction

The problem

Prior work

Overview

Method

Results

Discussion

Title Page

(a) title

(b) author(s)

(c) affiliation

(d) running head

Abstract

- In less than 100-150 words, tell:
  - What was the problem
  - What was done
    - with how many participants
    - gender of participants
  - What was found
  - What does it mean
- (Write the abstract last)

Introduction

I. Theoretical questions being examined

    A. Why is it interesting?

    B. Why is it important

II. Review of previous work

    A. What has already been found?

    B. What unsolved problems are raised by the prior research?

    C. Are there methodological flaws in previous research that need to addressed?

III. Overview of study

    A. Brief paragraph describing basic design

    B. Variables of interest

Methods/Procedures

I. Enough information to allow someone to replicate the study if they chose to do so

    A. Subjects/participants

        1. who were they

        2. how were they chosen

        3. what special characteristics do they have

    B. Apparatus

        1. any special equipment or forms

    C. Procedure

        1. what was said by the experimenter

        2. what was asked of the participant

Results

I. Any finding worth discussing is introduced here

   A. say it in words

      1. (doing X led to an increase in Y)

   B. say it in numbers

      (mean Y for low X = , mean Y for high X =

   C. say it in statistics ($F_{a,b}$ = xx.xx, p < .0y

   D. references are made to tables and figures

      (insert table X about here)

      actual tables and figures appear later in manuscript

Discussion and Conclusion

I. What do the results mean

    A. In a manner that a generalist can understand

    B. In a manner that a specialist will appreciate

II. How do the results relate to the original hypotheses?

    A. Why are they different? (If they are)

III. Implications for further study

    A. What should be the next set of studies to be conducted?

IV. Final paragraph giving "take home message"

Final sections

References

   (a) literature cited

   refer to articles actually read by you

   (if important but not read by you, cite as "as cited by …")

Tables (see Leary, Plonsky)

Figure Captions (one page for captions for all of the figures)

Figures

    (do not include figure captions on these figures)

Additional comments

Stylistic considerations
  general style of writing
  specific requirements
  partially meant for the ease of editing
          margins and spacing
          levels of headings
          running heads

General style considerations

Overall

    Write for the intelligent but uninformed reader

    Remember what is important in each paragraph and each section.

    Topic sentences should be able to stand by themselves

Minor comments

    complete sentences

    no unnecessary words

    Proofread -- spelling and punctuation!

    remember: tense

            data are plural!

Special things to consider

- Scientific readers are different, they do not read straight through, but rather
  - Abstract
  - First paragraph of intro
  - First paragraph of discussion
  - Last paragraph of discussion
  - Then, and only then the whole paper
- So: "punch up" those paragraphs!

Guides to writing an APA paper

- APA manual of style - The official reference
- Leary (Chapter 15) detailed example
- Plonsky "cheat sheet" to the APA paper
  - http://www.uwsp.edu/psych/apa4b.htm

- Also possible to use sophisticated typesetting language: LaTex with the apa.cls style sheet
  - see http://personality-project.org/revelle/syllabi/ 205/apa.style.html

LaTex: a brief overview- optional

- Author's emphasis should be upon content not format
  - let the author write
  - let the computer do the formatting
- TeX originally developed by Donald Knuth, LaTex by Leslie Lamport as add on to TeX
- Available as free software from latex-project.org

LaTeX is a markup language

- LaTeX and HTML (for web) are markup languages and are not WISIWYG

- Initially harder to use than WISIWYG programs such as Word or OpenOffice

- Allow user great control over what the document will look like (if desired) or can do complex formatting without much thought.

LaTeX structure

- Commands are preceded by \
  - and sometimes followed by {}
  - \section{This is a section heading}
  - %comments are preceded by % and are ignored
- Structure of a document is
  - Preamble (what packages to include, who you are, what type of output you desire}
  - Content (perhaps broken into sections, perhaps including tables and figures)
  - End materials

Structure of Latex Document: example template

```
\documentclass[man]{apa}%can be jou (for journal), man (manuscript) or doc (document)
\usepackage{url}   %this allows us to cite URLs in the text
\usepackage{graphicx}  %allows for graphic to float when doing jou or doc style
\usepackage{amssymb}  %use formatting tools  for math symbols
\title{A basic apa style paper}
\author{Your Name}
\affiliation{Department of Psychology \\ Northwestern University}
%\date{}                                      % Activate to display a given date or no date
\abstract{Some 100 clever words. What was the problem, sample size, gender. What was found, what does it
mean.   Use complete sentences. Write abstract last.}
\begin{document}
\maketitle
%\section{}
An introduction should be interesting and could include a reference \cite{rev:ea07} or two \cite{rm:95}.
Everything should be doublespaced!
\section{Methods}
Allow someone to do the study again. What were the materials, what was the procedure.
\section{Results}
What did you find -- say it in words, numbers and then stats \\
a Table could go here
\section{Discussion}
What does it mean?  Make it interesting. Perhaps point out how the literature supports this result \cite{deese
59}
%\bibliography{examplebib} %allows for bibliographic material to be automatically formatted
\bibliography{/Volumes/WR/bill/Documents/Active/book/all}  %put your bibliography here
\end{document}
```

Latex: manuscript format

A basic apa style paper 1

Running head: A BASIC APA STYLE PAPER

A basic apa style paper

Your Name

Department of Psychology

Northwestern University

Latex: Manuscript p 2

Abstract

Some 100 clever words. What was the problem, sample size, gender. What was found, what does it mean. Use complete sentences. Write abstract last.

Latex: APA manuscript p 3

A basic apa style paper

An introduction should be interesting and could include a reference (Revelle, 2007) or two (Roediger & McDermott, 1995). Everything should be doublespaced!

Methods

Allow someone to do the study again. What were the materials, what was the procedure.

Results

What did you find – say it in words, numbers and then stats

a Table could go here

Discussion

What does it mean? Make it interesting. Perhaps point out how the literature supports this result (Deese, 1959)

26

LaTeX: apa page 4

References

Deese, J. (1959). On the prediction of occurrence of particular verbal intrusions in immediate recall. *Journal of Experimental Psychology, 58*(1), 17–22.

Revelle, W. (2007). Experimental approaches to the study of personality. In R. Robins, R. C. Fraley, & R. F. Krueger (Eds.), *Handbook of research methods in personality psychology.* (p. 37-61). New York: Guilford.

Roediger, H. L., & McDermott, K. B. (1995). Creating false memories: Remembering words not presented in lists. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 21*(4), 803-814.

Latex: typeset as journal

A basic apa style paper

Your Name
Department of Psychology
Northwestern University

Some 100 clever words, but in complete sentences.

An introduction should be interesting and could include a reference (Revelle, 2007).

Methods

Allow someone to do the study again.

Results

What did you find – say it in words, numbers and then stats.
a Table could go here.

Discussion

What does it mean? Make it interesting. Perhaps point out how the literature supports this result (Killeen, 2005).

References

Killeen, P. (2005). An alternative to null-hypothesis significance tests. *Psychological Science, 16*, 345-353.

Revelle, W. (2007). Experimental approaches to the study of personality. In R. Robins, R. C. Fraley, & R. F. Krueger (Eds.), *Handbook of research methods in personality psychology*. New York: Guilford.

Bibliographic data bases (optional)

- Although when writing just one paper with a few references, it is easy to keep the references as part of the document, as you write longer papers, it is convenient to have a bibliographic data base.

- EndNote (available from the NU library)

- BibTex (available from the web)

Using BibTex and Google Scholar

- Search on Google Scholar for author or critical word

- Read article (or abstract)

- Save reference to BibTex/Endnote

- Include in your paper

Consider a google scholar search

[PDF] Norms for word lists that create false memories

... Stadler, HL **Roediger**, KB **McDermott** - Memory and Cognition, 1999 - memory.wustl.edu

... This is a remark- able finding, one that was replicated in Experiment 2 and has been generally confirmed in subsequent work (**Mc- Dermott**, 1996; Schacter, Verfaellie, & Pradere, 1996). Following presentation of all six lists, **Roediger** and **McDermott** (**1995**) gave subjects a ...

Cited by 223 - Related articles - View as HTML - BL Direct - All 10 versions - Import into BibTeX

wustl.edu [PDF]

Find it @ NU

Creating false memories: Remembering words not presented in lists

HL **Roediger**, KB **McDermott** - Journal of Experimental Psychology ..., **1995** - psycnet.apa.org

Two experiments (modeled after J. Deese's 1959 study) revealed remarkable levels of false recall and false recognition in a list learning paradigm. In Experiment 1, subjects studied lists of 12 words (eg, bed, rest, awake); each list was composed of associates of 1 nonpresented ...

Cited by 1288 - Related articles - BL Direct - All 34 versions - Import into BibTeX

pomona.edu [PDF]

Find it @ NU

Tricks of memory

HL **Roediger**, KB **McDermott** - Current Directions in ..., 2000 - cdp.sagepub.com

... In a recent study (**Mc- Dermott** & **Roediger**, 1998), we gave such instructions and then tested recognition when the critical items (like ... the prob- ability that a nonpresented word associated with the list words was falsely recalled (from **Roediger** & **McDermott**, **1995**, Experiment 2 ...

Cited by 76 - Related articles - Full View - BL Direct - All 19 versions - Import into BibTeX

sagepub.com [PDF]

Find it @ NU

[PDF] Attempting to avoid illusory memories: Robust false recognition of associates ...

KB **McDermott**, HL **Roediger** - Journal of Memory and Language, 1998 - psych.wustl.edu

... of Explicit Warnings and Immediate Testing Kathleen B. **McDermott** and Henry L. **Roediger**, III Washington University **Roediger** ana **McDermott** (**1995**) showed that presentation of associated words can induce false recognition of a related, but nonpresented, associate. ...

Cited by 135 - Related articles - BL Direct - All 9 versions - Import into BibTeX

wustl.edu [PDF]

Find it @ NU

VERIDICAL AND FALSE MEMORIES IN HEALTHY OLDER ADULTS AND IN ...

... , D Adams, HL **Roediger**, KB **McDermott**, ... - Cognitive ..., 1999 - informaworld.com

... Five groupsofparticipants (young,healthy old, healthyold-old, verymild Dementia ofthe Alzheimer's Type, Mild Dementia of the Alzheimer's Type) studied and were tested on six 12-item lists of words selected from the DRM (Deese, 1959; **Roediger** & **McDermott**, **1995**) materials. ...

Cited by 191 - Related articles - Full Text@IngentaConnect - BL Direct - All 6 versions - Import into BibTeX

Find it @ NU

Factors that determine false recall: A multiple regression analysis

HL **ROEDIGER**, JM Watson, KB ... - Psychonomic ..., 2001 - pbr.psychonomic-journals.org

... (Kirkpatrick, 1894, p. 608) Kirkpatrick's informal observations have recently been confirmed by many investigators (eg, **Roediger** & **McDermott**, **1995**), and false recall and false recognition owing ... **Roediger** and **McDermott's** (**1995**) research built on prior work by Deese (1959b). ...

Cited by 212 - Related articles - BL Direct - All 12 versions - Import into BibTeX

psychonomic-journals.org [PDF]

Find it @ NU

" Remembering" words not presented in lists: Relevance to the current recovered/ ...

JJ Freyd, DH Gleaves - Journal of Experimental Psychology: ..., 1996 - psycnet.apa.org

... **Roediger** and **McDermott** (**1995**) reported finding high levels of false recall and false

psycnet.org [PDF]

Find it @ NU

Import into BibTex

```
@article{roediger1995creating,
  title={{Creating false memories: Remembering words not presented in lists}},
  author={Roediger, H.L. and McDermott, K.B.},
  journal={Journal of Experimental Psychology-learning memory and cognition},
  volume={21},
  number={4},
  pages={803--814},
  year={1995},
  publisher={Washington, DC: American Psychological Association,[c1982-}
}
```

Search Relevance	First Author	📄 Cite Key	Year ▲	Title
▊▊▊	Roediger, H. L.	rm:95	1995	Creating false memories: Remembering w
▊▊▊▊▊▊▊	Bem, D. J.	bem:03	2003	Writing the emperical journal article

◄ ►

rm:95

Creating false memories: Remembering words not presented in lists (article)

Author
Roediger, Henry L. and McDermott, Kathleen B.

Journal
Journal of Experimental Psychology: Learning, Memory, and Cognition

Year
1995

Volume
21

Number
4

Pages
803-814

Keywords
false recall & recognition of nonpresented words, college students, replication Learning & Memory [2343]

Abstract
Two experiments (modeled after J. Deese's 1959 study) revealed remarkable levels of false recall and false recognition in a list learning paradigm. In Exp 1, Ss studied lists of 12 words (e.g., bed, rest, awake); each list was composed of associates of 1 nonpresented word (e.g., sleep). On immediate free recall tests, the nonpresented associates were recalled 40% of the time and were later recognized with high confidence. In Exp 2, a false recall rate of 55% was obtained with an expanded set of lists, and on a later recognition test, Ss produced false alarms to these items at a rate comparable to the hit rate. The act of recall enhanced later remembering of both studied and nonstudied material. The results reveal a powerful illusion of memory: People remember events that never happened. (PsycINFO Database Record (c) 2007 APA, all rights reserved)

Local Files

4

Several output options

[1] H. L. Roediger and K. B. McDermott. Creating false memories: Remembering words not presented in lists. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 21(4):803–814, 1995.

rm:95

Creating false memories: Remembering words not presented in lists (article)

Author

Roediger, Henry L. and McDermott, Kathleen B.

Journal

Journal of Experimental Psychology: Learning, Memory, and Cognition

Year

1995

Volume

21

Number

4

Pages

803-814

Keywords

false recall & recognition of nonpresented words, college students, replication Learning & Memory [2343]

Abstract

Two experiments (modeled after J. Deese's 1959 study) revealed remarkable levels of false recall and false recognition in a list learning paradigm. In Exp 1, Ss studied lists of 12 words (e.g., bed, rest, awake); each list was composed of associates of 1 nonpresented word (e.g., sleep). On immediate free recall tests, the nonpresented associates were recalled 40% of the time and were later recognized with high confidence. In Exp 2, a false recall rate of 55% was obtained with an expanded set of lists, and on a later recognition test, Ss produced false alarms to these items at a rate comparable to the hit rate. The act of recall enhanced later remembering of both studied and nonstudied material. The results reveal a powerful illusion of memory: People remember events that never happened. (PsycINFO Database Record (c) 2007 APA, all rights reserved)

BibTex and LaTeX

- The typesetting language LaTeX interacts very well with the bibliographic data base BibTeX.

- Items may be referenced in LaTex by \cite {reference}

- When the text is formatted, this becomes Reference (2010) and the bibliography at the end of the manuscript has the reference in APA form.

- See the sample manuscript for examples.